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Emerging Markets Queries in Finance and Business

Who is working less and why?

Silvia Pisica, Nicoleta Caragea, Valentina Vasile *

Institutul National de Statistica, Bd. Libertatii nr.16, Bucharest 050706, Romania
Universitatea Ecologica din Bucuresti, Str.Franceza nr.22, Bucharest 030104, Romania
Institutul de Economie Nationala, Calea 13 Septembrie nr.13, Bucharest 050711, Romania

Abstract

Even though the unemployment rate remains the main indicator that measures the labor underutilization, it is not able to reflect the total lack of work in a country, but also other insufficiencies to capture the volume of work at national level. The statistical community devoted efforts to introduce supplementary measures to quantify of work underutilization, in order to have a better view of less employment and wasted working time.

The main objective of the present paper is to analyze the underutilization of the capacity of the labour force in Romania in line with the demographic, social characteristics as well as education level and status in employment. The paper will also reflect an evidence of disparities of different category of underemployment across the geographical regions in the country and the main reasons of labour underutilization.

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labor underutilization, underemployment, labor force, working time, unemployment

* Corresponding author. Tel.: +4-074-654-6660; fax: +0-000-000-0000 .
E-mail address: nicoleta.caragea@insse.ro.

1. Introduction

Labour markets have a different behavior in comparison with other markets such as the goods and services one, because they are mostly characterized by a permanent imbalance between demand and supply. For an economy with such of behavior, the outcomes are considered inefficient, because the resources are not efficiently allocated.

Underemployment occurs generally as a result of no full utilization of the available labour resources. The phenomenon of non-utilization is mostly identified with unemployment. It is widely recognized that the unemployment is not a comprehensive indicator in order to measure the unused labour capacity. In a broader sense the underemployment can be defined as including employed persons working less than their usual working time hours, or not fully using their skills, education and experience in relation with their current job.

The reasons for underemployment are various. According to the causes for working less, the underemployment can be considered as split into two types: *skill-related underemployment* and *time-related underemployment*. For the skill-related underemployment, one of the main reasons for working less is that workers are unable to change their jobs in certain occupations that require a higher level of education, training or qualification (skill shortages). This situation is more frequent especially for the younger persons (15-24 years). Although the schools and universities provide resources like career counseling, internships, and job leads, they are not enough to fill the skills gaps of the youth population. The time-related underemployment is caused because people are not free to choose their working time. They have many familial responsibilities and constraints or are in the parental leave and they are not able to work more hours per day even if they want so. These people are employed but they could be considered as part-time unemployed because they cannot work a higher number of hours as they would prefer. On the opposite side, there is a segment of underemployment consisting in people who have not the willingness to work more.

The underemployment definition could be more inclusive if we would consider within underemployment the latent workforce that includes people who are voluntarily in retirement before the legal retirement age, but who are expressing their interest in returning on the labour market.

Also the underutilization of working labour force could be regarded as generated by the economic crisis when the companies reduce their production capacity; not having enough money for remuneration of employees or they have to reduce the working hours and/or the number of employees (labour market depression). That kind of the underemployment could be the third type called *crisis-related underemployment*. There is also in the ILO definition, *income-related underemployment*; this type of underutilization of the labour capacity exists when a worker's income is lower than it would otherwise be because of some feature of the employer or workplace, like inadequate equipment, insufficient training, or poorly organized working arrangements.

According to Wilkins et al., 2011, the framework of the labour force underutilization is given in the figure below:

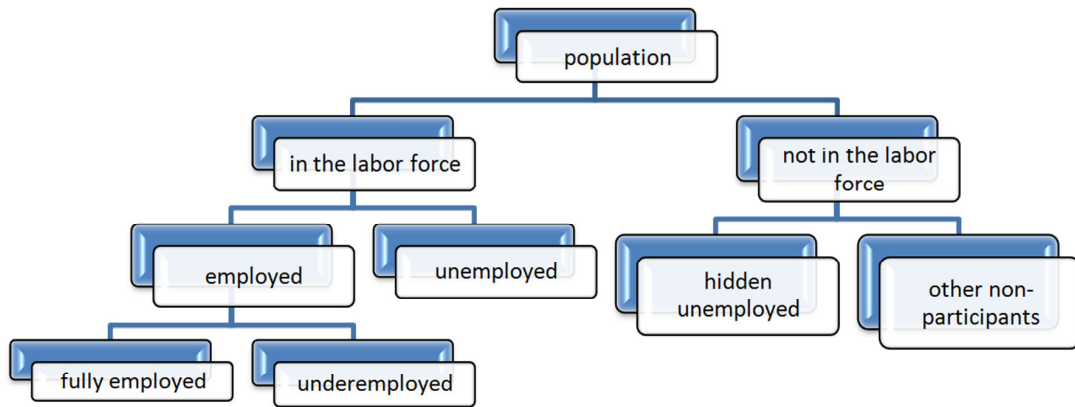


Fig. 1. An expanded labour force underutilization framework

The underemployment is distinguished from the unemployment and from the hidden unemployment through the at least few hours worked during the week.

2. Underutilization of the labour force in Romania

The next section of the present paper analyses the underutilization of the capacity of the labour force by demographic and social characteristics as well as education attainment, occupational status and the main reasons of underemployment. Data are provided by the Labour Force Survey (LFS) that is annually carried out by the National Institute of Statistics in Romania. The estimates are reliable at national and regional level.

2.1. Romanian underemployment in 2013

Underemployment size varies from time to time during the year in accordance with the inevitable seasonality of employment. For this study, the data analysis is made for the average of the variation of underemployment, during the year 2013, by mean causes.

The analysis of the underemployment in Romania is presented according with certain characteristics of employed population for whom the actual duration of the working week was different from the usual one:

- Demographic characteristics (sex and age groups)
- Social criteria (urban/rural area, education attainment)
- Labour characteristics (status in employment, cause of working less hours, willingness to work).

According to Labour Force Survey, the list of causes for which employed persons work less than the usual duration of working week is given below.

Reasons for working less than the usual duration of the working week	
A	Annual leave
B	Maternity or paternity leave

C	Parental leave up to 2 years
D	Sick leave, illness, injury or temporary disability
E	Technical unemployment, strike or labour dispute
F	Flexible schedule
G	Days off and holidays
I	Personal or family responsibilities
J	Adverse weather conditions
K	Other reasons

In 2013, nearly 850 thousand people have worked a different number of hours per week than the usual ones. Out of 850 thousand the share of those for whom the actual duration of the working week was less than the usual one is 57.6% and 5.3% out of total employment (table 1). Women are more likely to be underemployed than men (6.0% as compared to 4.7% for men). Among youth (15-24 years) are registered the highest shares of people working less hours than the usual ones per week.

Table 1. Age distribution of employment working less than usual duration of working week (%), by sex, in 2013

Sex	Employment	Working-age employment	Age groups				
			15-64	15-24	25-34	35-44	45-54
Total employment working less	5.3	5.1	7.4	5.7	4.6	3.8	6.0
Male	4.7	4.5	7.5	3.9	4.4	4.1	5.5
Female	6.0	5.8	7.2	8.1	4.8	3.6	6.7

The biggest gap by sex is registered for the age group 25-34, where the female are more frequently underemployed than male (figure 2).

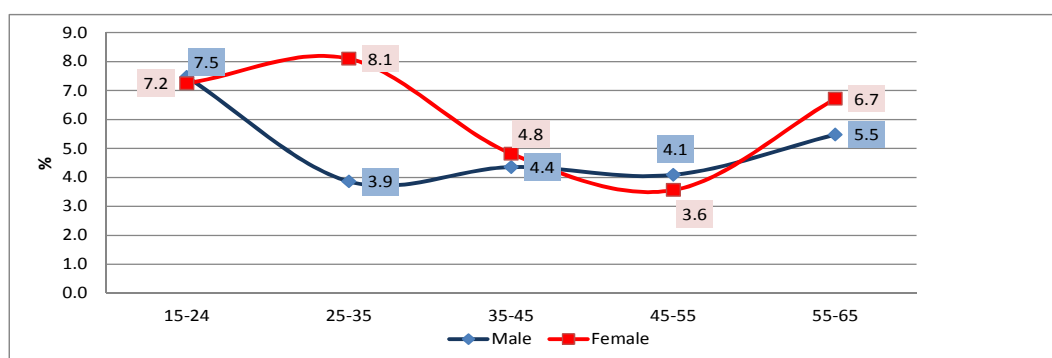


Fig. 2. Illustration of the gap between male and female for employment working less than usual duration of working week (%), by sex, in 2013

By Feather et al., 1999, employees can be classified in two groups: overemployed and underemployed, according to their preference of working less or more for the same hourly wage. The underemployment is regarded as employed persons working less hours per week but having the willingness to work more.

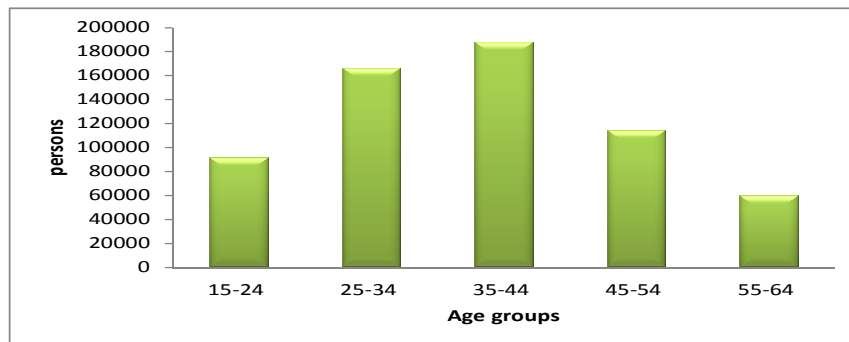


Fig. 3. Employed population working less hours but willing to work more (underemployed)

Some of these people are searching for a new job (9.7%), especially when they are young (15-24 years); for this group of age characterized by a higher job flexibility, a share of 16.2% wants to work more hours.

By urban/rural area, 3.3% of total urban employed population work less weekly hours than the usual duration. The situation is more pronounced in the rural area, where 7.7% of total rural workers are affected by time-related underemployment, declaring as main reason the adverse weather conditions (50.0%).

Irrespective of urban/rural area, the most frequent reason for working less than the usual duration of week is the adverse weather conditions (34.0%). This reason is related to the seasonality of certain economic activities, especially agriculture and construction. Over more, in agriculture most of workers are frequently self-employed or family workers, spending for work 38.1 hours per week, 35.5 hours, respectively.

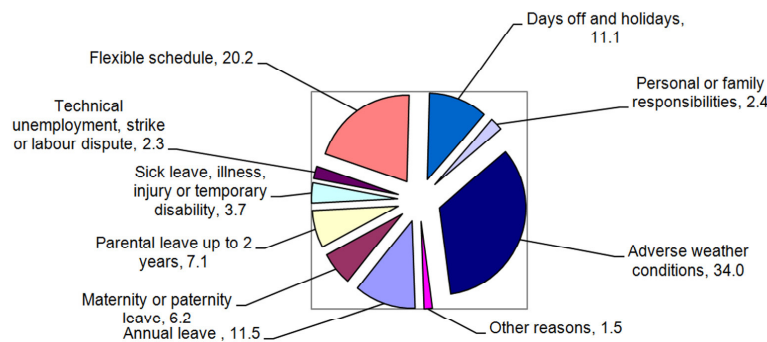


Fig. 4. Share of total employment working less than usual duration of week, by reasons (%)

The second cause which generates a high level of time-related underemployment is the flexible schedule (20.2%) affecting the self-employed from agriculture, forestry and fishing, services and sales workers as well as the family workers.

When considering the breakdown by status in employment it is noticing that the time-related underemployment is more frequently met among the self-employed (15.5% of the total self-employed persons

work less than the usual duration of a working week). Similar with the self-employed persons, the family workers spent less time to work because most of them are employed in agriculture or other seasonal activities.

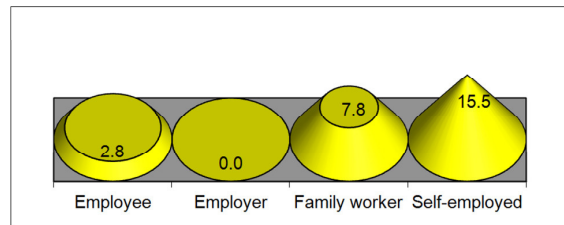


Fig. 5. Total employment working week less than usual, by status in employment (%)

Employers are not affected by the underemployment, and more in most of the cases they are overloaded in terms of working hours (the average time of the actual working week in the national economy for employers is 43.8 hours).

Differencies are noticed at regional level: the highest underemployment is registered in the North-East region (31.4%) and the lowest in West region (3.5%).

3. Wasted working time caused by underemployment

Other approach in terms of underemployment may be regarded as the underutilization of the total potential working time that could be counted within the national economy. This indicator can be estimated based on the potential labour force, expressed generally by the number of the total working age population (15-64 years).

Supply of labour in the economy is limited by the size of the population and its age structure. In Romania, in 2013, the employment counted 9.2 million persons (according to LFS) and the average length of the usual working week was 40.2 hours. If during one single day the entire employed population would work one additional minute, the national economy would have a potential working time higher by 150,000 hours.

In the next section will present the results of the authors calculation for the working time wasted in 2013 at national level caused by the time-related underemployment, i.e. by hours worked less than the average usual duration of the working week that is of 40.2 hours. The table bellow illustrates the employment in Romania according to the type of working time program and the duration of usual working week.

Table 2. Employment by type of working program and duration of usual working week, in 2013

Type of working program	
Duration of usual working week (hours)	Employment (persons)
Total	9247397
Full time	8329454
01-35	401880
36-39	53160
40	6136613
> 40 or unknown	1737800

Part time	917944
01-10	-
11-20	102504
21-30	86363
>30 or unknown	726866

3.1. Wasted time for the full time employed persons

Out of the full timers, 6.59 million persons (79.1%) are usually working less than the average usual duration of working week (40.2 hours), but 6.13 million persons of them are working 40 hours per week. In order to estimate the wasted time caused by hour worked less than the average duration, first step was to calculate the total number of usual working hours for the full timers working less than 40 hours/week according to the formulae:

$$T_{usual} = T_{1-35} \times N_{1-35} + T_{36-39} \times N_{36-39} = 9.2 \text{ mil. hours} \quad (1)$$

Where:

T_{1-35} - number of working hours/week for full timers with an usual duration of working week of 1-35 hours (it was considered as the center of interval - 18 hours);

T_{36-39} - number of working hours/week for full timers with an usual duration of working week of 36-39 hours (it was considered as the center of interval – 37.5 hours);

N_{1-35} - number of full timers with an usual duration of working week of 1-35 hours per week;

N_{36-39} - number of full timers with an usual duration of working week of 36-39 hours per week;

Assuming that the full-timers who are working less than 40 hours per week would be able to work a number of weekly hours equal with the average at the national economy level (40.2 hours), the total working time would be:

$$T_{estimated} = 40.2 \times N_{fulltime < 40} = 18.3 \text{ mil. hours} \quad (2)$$

Where:

$N_{fulltime < 40}$ - number of the total full time employed persons working less than 40 hours per week.

Thus, the wasted working hours at the national economy for the full timers is the difference between the estimated and the total usual time of a working week:

$$\Delta_{fulltime} = T_{estimated < 40} - T_{usual} = 9.1 \text{ mil. hours} \quad (3)$$

If all full time employed persons who are working less than 40 weekly hours would have a job with usual working week duration of 40.2 hours, the additional working time would increase by 9.1 million hours per week; this result means that every full-timer could work extra 30 minutes per week (0.49 hours).

3.2. Wasted time of the part time employed persons

Same algorithm was applied for the part timers and the results show that each part-timer wastes 2.05 hours per day because of underutilization of the working time.

The total number of hours for the part timers is:

$$T_{usual} = T_{11-20} \times N_{11-20} + T_{21-30} \times N_{21-30} + T_{>30} \times N_{>30} = 25.50 \text{ mil. hours} \quad (4)$$

Where:

T_{11-20} - number of working hours/week for part timers with an usual duration of working week of 11-20 hours (it was considered as the center of interval - 15 hours);

T_{21-30} - number of working hours/week for part timers with an usual duration of working week of 21-30 hours (it was considered as the center of interval – 25 hours);

$T_{>30}$ - number of working hours/week for part timers with an usual duration of working week of more than 30 hours;

N_{11-20} - number of part timers with an usual duration of working week of 11-20 hours per week;

N_{21-30} - number of part timers with an usual duration of working week of 21-30 hours per week;

$N_{>30}$ - number of part timers with an usual duration of working week of more than 30 hours per week;

The estimated working hours at the national economy if all part timers would work 40.2 hours per week is:

$$T_{estimated} = 40.2 \times N_{parttime} = 36.81 \text{ mil. hours} \quad (5)$$

Where:

$N_{parttime}$ - number of the total part time employed persons;

The wasted working hours at the national economy for part timers is:

$$\Delta_{parttime} = T_{estimated} - T_{usual} = 11.31 \text{ mil. hours} \quad (6)$$

If the part timers could switch to the full time program and working 40.2 hours per week, the additional working time in the national economy could increase by 11.31 million hours.

As a conclusion of this section, it can be argumented that the potential of the working time is underutilized in the national economy because of the duration of the working week is lower than the usual one; the wasted working time is estimate to be 2.30 hours per day for each employed person, compared with the situation when all the employed population work 40.2 hours per week.

4. Conclusions and recommendation for future research

However, many aspects of well understanding the time-related underemployment remain unexplored. The arguments are considering the annual leave, maternity or paternity leave, sickness leave, illness, injury or temporary disability, or days off and legal holidays. Further analysis should be focused on other causes of underemployment such as people not in employment neither enrolled in education system, the phenomenon being specific especially for youth.

The highest underemployment is for the discouraged aged group population with the ages in the boundaries of the working-age, respectively the youngest (15-24 years) and the oldest (55-64).

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